

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/749,675

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Upon entry of this Amendment, claims 1-8 are pending in the application. In response to the Office Action (Paper No. 4), Applicant respectfully submits that the pending claims define patentable subject matter.

I. Preliminary Matters

The Examiner is requested to acknowledge receipt of the certified copy of the priority document and the claim for foreign priority under 35 U.S.C. § 119 in the next action.

Examiner asserts that the spacing of the lines of the specification and claims is such as to make reading and entry of amendments difficult. The Examiner indicates that new application papers with lines double spaced are required. However, Applicant respectfully submits that the line spacing of the specification is entirely proper since the lines are 1.5 spaced as required by 37 C.F.R. § 1.52(b)(2)(i).

Claims 1-8 are objected to because of grammatical/stylistic informalities. Claims 1, 2 and 5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. By this Amendment, Applicant has amended the claims to improve clarity and address the Examiner's concerns. Accordingly, the Examiner is requested to withdraw the § 112, second paragraph, rejection.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/749,675

II. Prior Art Rejections

Claims 1-4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mansour et al. (U.S. Patent No. 5,058,105; hereafter “Mansour”). Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Nakata (U.S. Patent No. 6,452,934). Claim 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Ko et al. (U.S. Patent No. 5,479,047; hereafter “Ko”).

A. Disclosure of Mansour

Mansour discloses a network alternate routing arrangement for enhancing the reliability of a communications network so that traffic whose flow is disrupted by, for example, a faulty link, may be quickly restored to service. In particular, traffic is restored to service by establishing a number of orders of connectivity each formed from spare link capacity, in which each succeeding order of connectivity represents the shortest loop around a preceding order of connectivity. As shown in Figure 1, an inter-exchange network 200 includes switching offices or nodes 100-1 through 100-13, each having a digital cross-connect arrangement (DCA), and links 101 through 117 interconnecting the respective the switching offices (nodes) 100-1 through 100-13. The link may be comprised of a number of optical fibers with each fiber having a number of channels. Spare capacity beyond the in-service need may be inventoried and stored in a database so that it can be readily identified to establish a new route for traffic that is blocked as a result of a failure. Such spare capacity which is not marked faulty may be used to establish a new, alternate route in the event that an optical link between nodes, or a node itself, becomes

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/749,675

inoperable. For example, when the link 103 connecting nodes 100-2 and 100-3 fails, traffic between service-end nodes 100-1 and 100-5, which are assumed to be the respective source and destination of the traffic carried by failed link 103, is re-routed between nodes 100-1 and 100-4 via links 106 and 107 and node 100-6.

That is, when a centralized operations system determines that a node or link suddenly becomes inoperable, the centralized operations system identifies and establishes the most efficient loop (shortest route) for rerouting the original traffic affected by the failed link or node. The operations system does this by (a) determining the identity of the failure-end offices, which in the present case, are nodes 100-2 and 100-3; (b) then determining in real time from a link table (Figure 2), the least number of links and associated (intermediate) nodes that may be used to establish a possible loop whose end points terminate at the failure-end offices; (c) then determining the identity of each transfer-end node; and (d) then determining the identities of the intermediate nodes that would be used to establish the loop.

B. Analysis

By this Amendment, Applicant has amended claim 1 to recite “detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network.”

With regard to independent claim 1, the Examiner cites Mansour for allegedly disclosing all of the features of the claimed invention. Applicant respectfully submits that the claimed invention would not have been anticipated by or rendered obvious in view of Mansour, alone or

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/749,675

combined with Nakata and/or Ko. In particular, Applicant respectfully submits that it is quite clear that Mansour does not teach or suggest, detecting faulty operation which leads to the network being split. Instead, the teachings of Mansour are limited to the case where a node or link becomes inoperable and traffic is rerouted via other existing nodes/links of network.

On the other hand, with reference to the figure, the present invention is directed to the case where a private communications network R0, which includes nodes 1-9 interconnected by trunks $A_{i,j}$, is split into a first network portion R1 and a second network portion R2 due to faulty operation of the trunk $A_{1,4}$. The two network portions R1 and R2 are disjoint in that none of the nodes of the first network portion R1 can communicate directly, i.e., over a trunk available in the network in normal operation, with any of the nodes in the second network portion R2. When the network split is detected and data is to be transmitted between one of the nodes in the first network portion R1 and one of the nodes in the second network portion R2, a dynamic access $AD_{3,4}$ is set up. This dynamic access serves to carry digital signaling signals between the two portions R1 and R2 of the network R0. The signaling channels can be transmitted using various different media including modems for converting digital and/or analog signals can have been installed beforehand in nodes 3 and 4, links of the Ethernet type, a B channel in an access to a communications circuit, basic accesses, or indeed primary accesses which might be available in a public communications network. Under all circumstances, the signaling signals are no longer transmitted solely within the private network.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/749,675

Accordingly, Applicant respectfully submits that independent claim 1, as well as dependent claims 2-8, should be allowable because the cited references do not teach or suggest all of the features of the claims.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: September 18, 2004

Attorney Docket No.: Q62440